

## **Governance, human capital and economic growth into the countries of WAEMU**

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**Abstract:** *This paper focuses on the empirical analysis of the place of human capital in the relationship between governance and economic growth in the WAEMU countries during the period 1996-2012. Generalized least squares (GCM) estimates show that governance indicators taken in isolation have negative effects on the evolution of gross domestic product (GDP). Second, human capital across education levels contributes to GDP growth. Finally, the interaction of governance indicators with human capital shows positive effects on GDP.*

**Keywords:** *Governance; Human capital ; Economic growth*

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### **I. Introduction**

The good governance concept, which can be defined as the way of societies to develop rules, process and necessary behaviours for their survival and achievement, appeared at the end of the 1980's in the field of international relationships and development. This topic is used for first time by the World Bank to understand the causes of the biggest success of Structural Adjustment Plan (PAS) it installed. Indeed, the World Bank and the International Monetary Funds (FMI) were exclusively concerned about economic size of development especially encouraging the adoption of the liberal solutions. So, by the correction of this approach, they insisted on the needs for the efficient public institutions to guide the economic development and on the respect of some political exigencies. From the respect of the conditions of the PAS, we pass to the respect of those of good governance to benefit of the international aid.

The issue of good governance in the domain of development can be explained by the volunteering of the countries to get an ideal development expressed by:

- a prosperity to share with equality between all the citizens;
- the production and creative growth of the nation ;
- the technologies sharing between rich ones and poor ones in information ;
- more dignity and more human freedom ;
- the full participation of population in decision making ;
- the opinion and education liberty for everybody.

In fact, for François Perroux, the growth which is the guided increase for a long period, of an indicator (GDP) in volume, is conditioned first by the quantity and the quality of the factors of production. This increase can be good as to the investment as to the consumption. Generally, the growth correspond, for a nation to the guided and sustained increase in a long period of the services and goods production understood by the indicators (GDP).

The growth theory is one of the theories which was the subject of a lot of empirical investigations such as the one of Mankiw (1995) who presents the contribution of the education into the economic growth, and the negative role of some factors such as the political instability (an governance indicator) in the evolution of the economic growth rate.

For Kaufmann and Alii (1999), Kaufmann and Kraay (2002), after saying that the causality sense used to go from the institutions to the income level « Governance Matters » in the document titled « Growth without Governance », conclude that the relation is not circular: if a best governance aim to promote the economic growth, the main growth doesn't improve necessarily the governance.

In the other side, the results of several investigations (Chong and Gradstein (2004) mentioned by Mamoon Dawood (2007), International Country Risk Guide (IRCG) mentioned by Cindy Duc (2006) confirm that there is a direct link between the governance and the economic growth whose growth rate is the indicator and which is the motor of the economic growth. Indeed, the administrative regulations, the state of law, the efficiency of political governance, the expression and the democratic responsibility, the corruption control and the political stability (all the criterias of good governance) impact positively on the economic growth. From all that, the majority of the countries which want to get the guided and sustained growth in the long term the economic development, should take the way of the good governance. So, the question is: what can be the

contribution of the governance and the human capital in the process of economic growth of the countries of WAEMU?

## II. Governance, human capital and economic growth: tendencies and evolutions

### 2.1 Analysis of governance

Le PNUD define the governance « as the exertion of the political, economic and administrative authority, into the business management of a country in all the domains. The governance includes mechanisms, process, relationships and complex institutions, by way of which the groups organize their interests, exercise their rights and accept their obligations and to which they should address to resolve their conflicts ». In addition, the World Bank define the governance through six indicators which are:

- Citizen voice and responsibilities
- Political Stability and lack of violence
- Efficiency of Public Powers
- Quality of the Regulations
- States of law
- Control of corruption

The Table 1 is the setting off the presentation of averages of the indicators level of every country on the period (1996-2012) for the six indicators of retained governance. We should mention that these indicators get values between -2,5 and +2,5. A most big value plus is the reflect of best performances into the good governance or for any indicator. It seems that the indicators of governance are in all the negative for the majority of countries. That show weak performances in the good governance in countries of WAEMU on the period 1996-2012.

**Table 1: Indicators of Governance: Countries of WAEMU**

Countries	Obs	Citizen voices and responsibilities		Political stability and lack of violence		Efficiency of Public powers		Quality of Regulation		State of law		Control of Corruption	
		Average	Standard deviation	Average	Standard deviation	Average	Standard deviation	Average	Standard deviation	Average	Standard deviation	Average	Standard deviation
BENIN	17	0,217	0,126	0,534	0,227	-0,430	0,122	-0,350	0,126	0,454	-0,206	-0,669	0,159
BURKINA FASO	17	-0,425	0,128	-0,150	0,247	-0,668	0,137	-0,234	0,106	-0,563	0,243	-0,202	0,188
COTE D'IVOIRE	17	-1,082	0,239	-1,386	0,708	-0,910	0,416	-0,691	0,238	-1,249	0,218	-0,818	0,425
GUINEA BISSAU	17	-0,905	0,239	-0,876	0,504	-1,207	0,157	-1,114	0,138	-1,470	0,305	-1,065	0,092
MALI	17	0,057	0,236	0,026	0,581	-0,827	0,186	-0,377	0,120	-0,372	0,174	-0,546	0,114
NIGER	17	-0,645	0,554	-0,477	0,402	-0,865	0,200	-0,624	0,185	-0,731	0,149	-0,869	0,168
SENEGAL	17	0,035	0,208	0,432	0,310	-0,235	0,190	-0,224	0,070	-0,166	0,172	-0,256	0,269
TOGO	17	-1,178	0,143	-0,420	0,325	-1,315	0,240	-0,740	0,175	-0,863	0,127	-0,849	0,145
TOTAL WAEMU	136	-0,499	0,568	-0,398	0,692	-0,807	0,404	-0,544	0,324	-0,734	0,463	-0,659	0,358

Source: Calculations with STATA

For the first indicator which is Citizen voice and responsibilities, the Benin is the only one country to get a positive medium level. Into the political stability and the lack of violence, only Benin and Mali have positive values, with the weakest value of Cote d'Ivoire (-1,386). The efficiency of public powers are more observable in Senegal (-0,235) and in Benin (-0,430) in comparison to the other countries of WAEMU. The worst performance is with Togo (-1,315) as average on the period. Concerning the quality of regulation, Senegal (-0,224) and Burkina-Faso (-0,234) are the most performers of the Union while Bissau Guinea (-1,114) and Togo (-0,740) are less good on the study period. The state of law is the most observed in Benin which presents a positive medium value (0,454) on the period. Finally, we observed that one more time Burkina-Faso (-0,202) and Senegal (-0,256) are better in the control of corruption in comparison with other country, between of which Bissau Guinea (-1,065), Niger (-0,869) and Togo (-0,849) still the less performers. These observations are also confirmed with AHOU (AHOU.A. prepared Paper of the opened University about migrations: Migrations, Liberty of circulation and Development, Dakar, 2-5 june 2008).

## 2.2 Analysis of economic growth and education level

The economic and financial situation of member states of the Union was described, along the 80's and in the beginning of the 90's, with the worrying reduction of economic growth, an obstination of deep disequilibrium of public finances and external payments, and with strong pressures on the currency. The new impulsion given to the process of adjustment of the economies with the application of global strategy, turning around the modification of the par of franc CFA and the signature of the WAEMU pact in 1994, allowed to the Union, on the period 1994-1998, to rejoin the economic growth, with a best control of inflationary pressures and a reduction of disequilibrium of public finances. So, the economic activity were essentially getting up registering an medium progression of 5,1% per year. This resumption of activities stopped in 1999 after the amplification of exogenous impacts, to the deterioration of the social and political environment in some countries and the installation of inappropriate economic politics, reducing the rhythm of economic extension to 2,0 % as average per year along the period 2000 – 2003. This level of growth still lower than the demographical increase at 3%. It is also apart of economic growth rate of 7% required to fight strongly against the poverty and which allowed to reach the objectives of millennium development in 2015 (OMD).

The table 3 shows the evolution of GDP per head, the GDP growth rate, the education level and the expectancy lifetime of WAEMU countries on the period 1996-2012.

The medium GDP per head of WAEMU countries on period 1996-2012 are between 262,4 dollars constants of 2000 (for Niger) and 950,8 dollars (for Cote d'Ivoire). The medium GDP growth rate per head on the period is positive for all the countries, Burkina-Faso, Mali and Bissau Guinea showing highest values to the average of all the eight countries.

The economic activity in the WAEMU zone registered an increase of 3,0% in 2004 after a 3,2% rate in 2003. We can explain this growth essentially with the recent positive increase in Côte d'Ivoire, after some successive years of recession. The growth were also speeding up in Bissau Guinea and in Niger. In the other member states of the Union, the activity were less dynamic due to bad weather conditions and the grasshoppers invasion which destroyed a part of crops. The year 2005 indicates a growth rate of 4,0% with the strong hypothesis in the one part, a regional climate with peaceful essentially due to the standardization of the social and political climate in Côte d'Ivoire and, in the other side, weather conditions better for the agricole campaign 2005/2006 (Ouattara W.; Public wastes, Corruption and Economic growth in countries of West African Economic and Monetary Union (WAEMU): an Analysis of the Causality in the direction of Granger. Revue africaine de l'Intégration Volume 1, No. 1, janvier 2007).

The education level is between 20,96% as average (Niger) and 42,99% as moyenne (Bissau Guinea). We should notice than Mali (27,78%) and Burkina Faso (22,39%) have as average weak rates low than 30%. In the other side, according to the world report of supervision on EPT (2003/2004), the subsaharian Africa has one of the literacy rates which are the most weak of the world, only 60% of the population aged of 15 years and, in 2000, which are able to read and write. That is below the world average (80%). This rate is under 40% in Benin, in Burkina Faso, in Bissau Guinea, in Mali, Niger and in Senegal.

**Table 2: PIB per head, growth rate and education level: Countries of WAEMU 1996-2012**

Countries	Obs	GDP per head 1996 -2012 (Dollars constant of 1996)			GDP growth rate/head : 1996 -2012		Education level in %	
		Average	Standard deviation		Average	Standard deviation	Average	Standard deviation
BENIN	17	522,6525	159,46		0,046756	0,0824988	34,97057	5,657157
BURKINA FASO	17	396,9206	156,887		0,066128	0,0998056	22,39433	6,509512
COTE D'IVOIRE	17	950,8902	225,7667		0,032161	0,0899503	41,8047	3,01302
GUINEE BISSAU	17	375,6219	136,4288		0,060478	0,1740878	42,99952	6,221849
MALI	17	447,6439	184,3655		0,060905	0,1028755	27,78829	5,82673
NIGER	17	262,4026	81,79389		0,043466	0,0961379	20,96581	6,169076
SENEGAL	17	749,2481	234,4616		0,040531	0,0997175	39,71084	4,835449
TOGO	17	397,5291	107,0745		0,043638	0,0947152	53,72534	4,823512
TOTAL UEMOA	136	512,8636	268,8076		0,049258	0,1060833	35,54492	11,85085

Source: Calculations with STATA

### **III. Review of literature**

The determinant factors of economic growth was the object of several empirical works. Among these determinants, the governance and the human capital are not the less important, even if there is a several number of it. In addition, the makers of the exogenous theories of growth and endogenous theories of growth, a good number of theoreticians emphasised other determinants of economic growth.

In fact, in one study, Kaufmann and al (2003) used several governance indicators, collected from many sources, to define the nature of the relationship that can exist between governance and economic growth, for a large sample of country. They establish a regression between these three dependent variables: the logarithm of GDP per capita, infant mortality and the literacy rate and the six indicators of governance. The key finding of this study is that "governance issues are of paramount importance to economic outcomes". The estimate shows that an increase in the standard deviation for one of the governance indicators results in an increase from 25 (for "voice and accountability") to 4 times (for "political instability and violence"). ) per capita income and a 2.5 to 4-fold decrease in the infant mortality rate and a 15 to 25-fold increase in literacy. Kaufmann and al's analysis shows that the improvement of governance has a significant effect on growth, for example with regard to the rule of law, they find that the transition from low levels noted in Russia to the intermediate levels noted in the Czech Republic, or the decline in corruption from the very high level observed in Indonesia to the lower level recorded in Korea, translates into a 100% to 300% increase in per capita income, a decline in infant mortality.comparable scale and a 15-25% increase in the literacy rate.

Mauro (1995, 1998), who has worked on a large cross-section of countries through a cross-sectional analysis, concludes that corruption has a small effect on long-term economic growth but a strong and negative impact on investment . He joins Gyimah-Brempong (2002), whose work has focused on a panel of data from African countries, which has shown that corruption reduces economic growth, especially since it reduces the physical capital to inject into the economy. In the same vein, Mo (2001) has shown that corruption negatively affects growth through political instability and a 1% increase in the level of corruption reduces the rate of economic growth by 0.72%. . The work of Da Silva and al. (2002) on the influence of corruption on economic growth concludes that corruption is a "plague" for the economies of developing countries. For them, corruption is characterized by the low level of development of institutions that must protect the rights of the private sector. Thus, the low level of anti-corruption institutions increases the latter and impinges on the factors of production, in this case capital. This is in line with the results of the work of Kaufmann and Kraay (2002, 2003) who explored the governance-growth interrelationship across several domains grouped into six broad indicators. They conclude that per capita income and the quality of governance are significantly, strongly and positively correlated across countries. Thus, better governance leads to a rise in per capita income and the opposite is observed when the level of governance is low, followed by a collapse of the economy as a result of negative growth rates. North (1990) looked at democracy, political stability and corruption to analyze the causality between governance and economic growth.For this author and others like Hall and Jones (1999); Rodrick and al (2002); Ouidade (2010), if the increase in the quantities of capital and labour has a positive impact on growth, this increase will be much greater if the economy in question has a good quality of governance. This will make factor mobilization more efficient over time and induce growth. It is in this sense that Fosu (1992) and De-Haan then Siemann (1996) show that the effect of political instability is through investment and the accumulation of capital, to negatively affect economic performance. Guillaumont and Brun (1999) share the same conclusion but dispute these effects in the case of African countries and they show that the effect of political instability, defined as a combination of coups and civil wars is rather direct on the residue of growth and does not have a bias for accumulation and investment. For their part, Maria-Angels and al (2002) studied the relationship between political institutions, foreign direct investment and growth in 119 developing countries. They conclude that democracy has a positive and significant effect on economic growth in these countries, as a good democracy encourages foreign direct investment that is an input to a country's economic growth. Thus, they recommend that governments should strive to develop and guarantee the rule of law and transparency In support of this assertion, Henri (2013) recognizes that political stability and the regulation of economic activity exert an influence positive on economic growth in Africa.By these conclusions, the fight against corruption can trigger economic growth in countries rich in natural resources and applying democratic principles. On the other hand, the other indicators of governance in this case the control of corruption and the respect of the principles of the rule of law, do not produce yet effects expected in the countries poor in natural resources which are mainly countries Less Advanced (PMA).

Bernard K. Ahou and al, (2015) studied the relationship between Kaufman's governance indicators and economic growth, as well as the existence of potential threshold effects in the relationship between governance and economic growth. Through panel data modelling, it is found that governance indicators such as, voice and accountability, political stability, government effectiveness, and corruption control positively influence economic growth. On the other hand, the indicators of governance as quality of regulation and rule of law, have globally a negative influence on the economic growth. However, a robustness analysis indicates that these

results vary according to a country's income level. In addition, several of these governance indicators show the existence of a threshold effect in their relationship to economic growth according to a country's income level.

In fact, a study which is establishing relation between the financial development and the economic growth in the African countries of CFA zone considering the specificities and the dimension of financial system of WAEMU and CEMAC along the period 1960 – 2010 was realised by (Kwami Edem ABBUY Aimé Tchabouré Gogué, « Développement financier et croissance économique dans les pays de la zone franc », 2012). The results obtained with the help of the method of General Moment Dynamic panel (GMM) show the positive and sensed influence of financial development on the economic growth in the countries of CFA zone. It was demonstrated that the positive effect of financial development on the growth is explained with the way of WAEMU financial systems more than CEMAC. Specifically, for WAEMU, a positive relation were found between financial development and economic growth through the indicators of financial development as monetary medley reported by GDP and the credit given to private sector reported to GDP. In the CEMAC, the results lead to release any influence of financial sector of growth. On that fact, the financial system of WAEMU seems more in favour of positive impact of growth than the one of CEMAC. Nonetheless, it seems clear that the financial development only impact on the increase of CFA zone.

In addition, the financial liberty in CEMAC zone impacts positively on the financial development. In fact, the weakness of institutional development level has a negative impact on financial development. It could perform efficiently the financial development if the institutional financial development were so high. Unfortunately, the financial liberty is only benefit to the financial development. The CEMAC countries should establish strategies to promote the fight against the corruption and the political stability and perform, in the other side, the efficiency of governmental actions and the quality of regulatory issue (Bodjongo M. (2012),

And then, they evidenced the relationships which exist between economic development, institutional development, bank regulation and bank development using GMM method in dynamic panel for 19 North African and Middle-Eastern countries (MENA) along the period 1982-2005. The main results show there is a positive impact of economic development on bank development And a positive impact of bank regulation on bank development. In addition, they showed a lack of sensed relation between institutional development level and bank development and the positive influence of bank development on economic development. In fact, the lack of significative relation between institutional development and bank development can be explained by the specificity of institutional variables, which vary slowly in the time, that's why they have few noted effects on bank development reached by MENA countries (Middle East and North Africa : Samouel BEJI et Darine YOUSSEF, (2010), « La place de la régulation bancaire dans le développement bancaire et la croissance : une approche institutionnelle pour les pays d'Afrique du nord et du moyen-orient », Région et Développement n° 32-2010).

In addition, we show that the quantitative contribution of regional integration in term of growth, for Central Africa countries. For that, the econometric modelling used a VAR model specified on panel datas. We concluded that the global contribution of Central Africa to the integration explains in the long term 16.96% of economic growth variation. Specifically, the economic union and the total economic union are the steps of process which contribute to the growth, at 3,34% and 7,79%. The impacts of trading liberty and customs union on the growth, being with weak intensity, are positive and persistent on 10 years (Banque Africaine de Développement (BAD), Intégration régionale et croissance: le cas de l'Afrique Centrale X and Y 11 octobre 2013).

Out of the analysis of the link which exists between the financial system and the economic growth, the observation of the relation between the education and the MENA region fertility have been realised on a sample of 21 countries in 42 years. The results of the values obtained with the method of general moments in dynamic panel, show that the impact of women education is positive for the primary and university level and is negative but not significative for secondary level. The fertility is directly and specially affected by the using of contraceptive rate. However, the infant mortality rate has positive essential effect on fertility. But the correlation tests and the lack of Granger causality show that it exist a bidirective causality. There is so a relation in a short term between the demographic variables and educations for the three levels and the fertility, while this relation is insignificant in the long term for the MENA region (Toumi Olfa and Jalleddine Ben Rjab. (2014) « Education des Femmes et Transition Démographique: Application sur Données de panel pour la région MENA », International Conference on Business, Economics, Marketing & Management Research (BEMM'13) Volume Book: Economics & Strategic Management of Business Process (ESMB) Copyright \_ IPCO 2013 Vol.2, pp.34-39, 2014).

We can explain the economic growth with the interaction which can exist between the flux of foreign capitals and intern investment. This is the direct foreign investments and the international bank borrowing which are contributing to an increase of intern investment, the flux of the budget is less contributing. The entry of the private capitals can cause more efficiency for the level of the financial market through the technological and technical evolutions. By this way, it is encouraging the investment and creating new jobs. The role that the

economy institutional domain can play in the justification of the interaction between the foreign capitals flux and intern investment can be important. So, a group of technicians Hecht, Razin and Shinar (2004) titled « interactions between capital inflows and domestic investment ». This authors used a dynamic panel with four similar equations for the 64 emergent countries and in development during the period (1976-1997). They used the MCO and the DMC methods to evaluate the interaction between intern investment and three types of capitals flux which are direct foreign investments, international bank borrowing and budget flux defined as percentage of GDP. They concluded the capital flux cause in different degrees effects on the intern investment. From the other side, the investment is a main factor for the attraction of capitals flux. A deep study with the same method (model of HRS for 51 countries 6 emergent ones and in development during 1980-2005) has been realised by Rana Dallali, introducing three institutional variables which give informations about the public governance quality presented by the corruption indicators, property rights and administration. This study shows that corruption is increasing when the administration quality is bad and when the administrative process are slow and complex. With these conditions, the corruption is the opportunity and not an obligation. This conclusion has been verified for the case of direct foreign investments and the intern investment. About international bank borrowing and budget flux, their attraction increases when the level of corruption is weak and in the inverse. The protection of property rights is an essential condition in the domain of market economy because the foreign investors do not take risks of being without investment flashback. The international bank borrowing and the foreign direct investments can direct toward countries where the administrative process are too much and heavy. About the region of mediteranean coast of Africa (Tunisia, Morroco, Algérie, Egypt, Libya , Malta), the results of empirical evaluation has showed that the corruption encourages also the intern investment that IDE and international bank borrowing which can be directed to countries where the level of corruption is high because of the heavy and complex administration process in this region. About the budget flux, there are weak in this region and with the stretch relation with the financial market of this region. About of the opening of capital account, it is beneficial to the attraction of direct foreign investment. It is not the same condition for the budget flux (Rana dallali, « Interaction entre flux de capitaux étrangers et investissement intérieur : Rôle de la gouvernance publique » (Un essai pour la rive africaine de la mer méditerranéenne : Tunisie, Maroc, Algérie, Egypte, Libye, Malte).

In addition, the role of governance in the relationship between remittances and economic growth in Sub-Saharan African countries from panel data for the period 2002-2006 was highlighted. Estimates using the Blundell and Blond dynamic panel method highlight a negative effect of transfers on per capita GDP growth when governance is controlled. However, compared to poor performers, this negative impact is reduced by almost half for countries with a global governance status above the median. Political stability and control of corruption but even more simultaneous performance at the level of several governance indicators, appear as necessary conditions for an improvement of the relationship between transfers and growth of GDP / head in African countries. -saharienne. It also appears that the negative impact of transfers on growth is reduced when these are associated with gross capital formation for countries with similar states of governance. Good governance efforts are thus essential for a better orientation of the transfers towards activities likely to support the growth in the countries of sub-Saharan Africa (Alban AHOURE, 2008).

In addition, trade liberalization does not have a favorable effect on economic growth in UEMOA countries. The positive effect of trade liberalization on economic growth can be mitigated by the quality of institutions. In fact, the quality of the institutions that govern the political and economic life of a country is a very important factor that can condition the favorable effect of trade liberalization on economic growth, since the evolution of economic growth in the economies and more particularly in open economies is related to their ability to cope with the shocks that affect them. For example, social conflicts can exacerbate the impacts of negative shocks and amplify their adverse effect on income. A shock that causes political disagreements or paralysis of the economy can also have a very high cost in terms of loss of income (Akilou A., (2016).

Finally, Borenstein, De Gregorio, Lee (1998) consider human capital as the primary means of realizing the ripple effects, so it is especially the quality of the policies of the economy that stimulate these effects the most on economic growth.

## **IV. Analysis Method**

### **4.1 Methodology**

The last part showed us that a strong link which could exist between good governance and economic growth. We should see if it is possible to find theoretical results about an empirical plan. That is why we will use a methodology similar with the one used by Ahouré (2008).

In opposition with the works of Cobb and Douglas, who did their validations in transversal, the data econometry of panel seems to be a way of research more pertinent in the empirical estimation of the growth factors. In fact, the consideration of individual and intemporal data permit to get better the different factors which should explain the growth.

Two analysis will lead this study. First, a descriptive analysis which will consist in finding the link between different notions which will allow a good understanding of the subject.

Secondly, an explaining and predictive analysis will permit to build an explanation of the issue. Using a conceptual model constituted of many explanations will permit to get answers of the questions. This analysis will allow us to deal with the last examined relations in depth. That is why we use the conceptual model: Cobb Douglas model.

To get these results, we will do this analysis according to two research methods: the documentary research and the qualitative research.

The documentary research, through the exploitation of secondarydatas, will permit to see how the good governance can be analysed in our countries.

And then, from a model of Cobb Douglas, we go to evaluate the impact of good governance on the evolution of gross domestic product of countries. The financial ressources that the countries have represent the capital (K) in the fonction and the human ressources, it means the human potential or the capacity for hardwork of the population that the countries have represent the factor (L) work. Y represente the GDP and A is the multiplying factor. So, the fonction is presented like that:

**Équation1: Fonction of Cobb Douglas type**

$$Y = AK^{a_1}L^{a_2} \quad (1)$$

After the linear tranformation of this GDP fonction, we have :

**Équation2: Fonction of linear Cobb Douglas type**

$$\ln Y = \ln A + a_1 \ln K + a_2 \ln L \quad (2)$$

From the fonction of Cobb Douglas type, we go to build a conceptual model which will consider the governance (G) and the education level (Ne) to understand better the relationship between the variables. For that, the equation below :

**Equation 3: Equation of model to consider from thefonction Cobb Douglas**

$$Y = AK^{a_1}L^{a_2}G^{a_3}Ne^{a_4}G^{a_5Ne} \quad (3)$$

After analysing, the hypothesis according to which the education level impacts on the governance and the quality of governance has a positive impact on GDP that's why a life quality performanceor acontribution tothe development of countries which will be verified in the continuity of our study.

#### 4.2 Datas

As indicators, we used the indicators of governance which are posted by the World Bank team. These evaluations about governance are published by World Bank Governance Indicators in 2013. The indicators content six elements of good governance such as:

- Citizen voice and responsibilities which quantify the contribution of any country citizens in a selection of their governants and the liberty of expression, the association andd the press media ;
- Political stability and lac of violence which quantifies the perception of the probabilities of one of the stabilities or destitutions of government, violence or even the terrorism with the institutional ways;
- The efficiency of public power which measures the quality of public services, the performances of the public administration and its independance level in relation with the political pressures ;
- the quality of regulation or the capacity of publics power to elaborate and apply good politic of regulation in favour of development of private sector ;
- the state of law shows the level of confidence that the citizens have in the rules created by the societies ;
- the control of corruption which measures the management of public power for the self increase in weathl.

These indicators get the values -2,5 to +2,5 with a most important value which is showing more effort of good governance.

Concerning the informations about the population, the GDP, the gross creation of the capital, the ones about the majority of the world countries especially WAEMU countries are available on a CD-Rom of the World Bank (CD-R 2012).

Due to the unavailability of the datas of education level, a recourse to the indicators of education level (INE) proposed by the PNUD has been realized. The INE is the combination of two other indicators:the indicator of adult literacy (IAA) and the indicator of any level education (IS). The first one is the proportion of literated adults while the second one is the proportion of children who go really to school (primary, secondary and university). So, the INE is a weighted average of IAA and IS. It is equal to:

$$\frac{2IAA + IS}{3}$$

We got the datas of literacy rate from different reports posted by UNESCO about literacy in every country from 1996 to 2012. According to the schooling data, theycome from UNESCO statistics (2012).

Because of the difficulties to measure the aptitudes or the talents, we decided for this studies to consider the literacy and education level as the elements of the human capital.

## V. Results of the studies and discussions

### 5.1 Présentation of the analysis method

The question in that section is : Is the good government an important determinant of growth in long term? Or, does the variance observed in the variables of gouvernance indicators permit to explain the evolution of different GDP growth rate in a long term?we tried to answer to this question by the analysis of the theory and its deficiencies. We will approach the answer now in the empirical way using econometric tools.

Many studies which analyse the impact of the good governance on the growth realise their econometric analysis in an instant coupe. The econometrics is based on averages, which one suppose a homogeneous reaction in the time of different variables. But the databases of the economic growth studies consist of an individual and temporal extent. The transversal analysis does not use the individual extent. That is why the economic students wanted to optimize the estimation methods to consider the bidimensional character of the database. With the model of Cobb Douglas, AHOURE (2008) propose using the econometric methods of the panel to evaluate the growth equation. This equation which is the log-linear approximation of the growth, will also be the base of this econometric analysis.

This econometric model chosen will permit to observe the impact of the governance on the gross domestic product especially the economic growth.

The explained or dependant variable which is the GDP in which the production is notedas (Y) into the model. The explanatory variables of which population notedas (L) is represented here by the capacity of hardwork of the active population, the capital notedas (K) which represents in this model the capacity of finance for the value of the gross creation of the fixed capital, the education level (Ne) and the governance noted as (G) represents the quality of the governance.

Finally all the other explanatory variables and the other non explained impactsare represented with the error term noted as ( $\mu_{it}$ ). Into this model of the panel,  $\mu_{it}$  will be represented by  $\lambda_i$  and  $\varepsilon_{i,t}$

So, the below functions are extracted from the model of Cobb Douglas:

$$Y = AK^{a_1}L^{a_2}G^{a_3}(Ne)^{a_4}G^{a_5(Ne)} \quad (3)$$

We evaluate a model of production log linear Cobb-Douglas :

#### Equation 4: Linear of model (3) to evaluate

$$\ln Y_{i,t} = \alpha_0 + \alpha_1 \ln K_{i,t} + \alpha_2 \ln L_{i,t} + \alpha_3 \ln G_{i,t} + \alpha_4 \ln Ne_{i,t} + \alpha_5 Ne_{i,t} * G_{i,t} + \lambda_i + \varepsilon_{i,t} \quad (4)$$

#### Equation 5: Linear of model (4) to evaluate

Given that governance "G" has negative values the equation that will be used is:

$$\ln Y_{i,t} = \alpha_0 + \alpha_1 \ln K_{i,t} + \alpha_2 \ln L_{i,t} + \alpha_3 G_{i,t} + \alpha_4 \ln Ne_{i,t} + \alpha_6 Ne_{i,t} * G_{i,t} + \lambda_i + \varepsilon_{i,t} \quad (5)$$

Where the  $\alpha_i$ ,  $i = 0,1,2,3,4,5$  are the setting to evaluate.  $\lambda_i$ , the non observed fixed impact or the heterogeneous factor of the countries, catch all the factors (non observed) permanent in the time which have an impact on the growth.  $\varepsilon_{i,t}$  is the term of particular error. It represents the non observed factors which varies in the time and have an impact on the GDP of the country in the period t.

The datas of the panel permit to follow an individuei ( $i=1$  à  $8$ ) on a period t ( $t= 1$  à  $17$ ). The datas are indicated twice. The datas are from a panel of 8 countries on the period of 1996 to 2012 with the WAEMU countries. There is  $i= 8$  and  $t= 17$  and the datas which are the evaluation of the indicators of good governance for the World Bank.

We will evaluate the impacts and the meaning of the governance in the growth from every indicator. It means that the sample is represented by 6 indicators of good governance.

The stationary condition test of Levin-Lin-Chu was elaborated to evaluate the variability of the distribution.

The Durbin Watson tests of autocorrelation of error terms and the Breush-Pagan tests of heteroscedasticity for the panel datas are elaborated to check the toughness of the results. We will use the method of the dynamic panel or the method of the lower general squares (MCG) if the problem of autocorrelation and/or heteroscedasticity exist.

In fact, a dynamic panel is a model in which one or several lateness of the reliant variable are like the explanatory variables. In the opposite GMM in dynamic panel, the standard econometric technics such as the MCO do not permit to get efficient evaluations of that model, due to the presence of the reliant variable which is late at the right of the equation.

The GMM in the first difference of Arellano and Bond (1991) consist for every period to take the first difference of the equation to evaluate the specific country impacts, and then to instrument the explanatory variables and the equation in first difference by the value in late level for one period or more.

Concerning the GMM into the system of Blundel and Bood (1998), it combines the equations in first difference with the equations in level in which the variables are instrumented by the first differences.



Two tests are associated to the GMM in a dynamic panel: the overidentification test of Sargan/Hansen which allows to test the variability of late variables as instrument, and the autocorrelation test of Arellano and Bond where the negative hypothesis is the lack of autocorrelation of second order of equation errors.

The results of the GMM in the dynamic panel seems to be non efficient, the recession of the model will be realized by the method of least general square on the panel datas.

**Stationary test of variables :Levin-Lin-Chu (LLC)**

This test permit to know if the distribution of the model variables vary in le temps. The Levin-Lin-Chu (LLC) test has been realised and the results below:

**Table 3 : Stationary test of variables :Levin-Lin-Chu (LLC)**

Varriables	LLC		
	Without permanents and without trend	With permanen and without trend	With trend and withconstante
logY	1.0000	0.4314	0.0551*
logK	1.0000	0.7569	0.0065**
logL	0.9998	0.8366	0.0000**
logNe	0.9976	0.0073***	0.0365**
NeCitizenvoice	0.1411	0.0779	0.0828
NePoliticalsttab	0.0195**	0.6091	0.6727
NeEfficpower	0.7674	0.0038***	0.0067***
NeQualrg	0.5027	0.0048***	0.0865
NeStateoflaw	0.5699	0.1899	0.0856
Necontrolof corruption	0.7960	0.1629	0.1020

\* significatif à 10% \*\* significatif à 5% et \*\*\* significatif à 1%

Almost all the variables change a bit in the time in so far as the p-value are lower than the meaning entrance of 5%. So the distribution of this serie of datas is stationary, the informations don't change from one year to another one.

That means the non presence of unit root, the serie of the variables is not correlated. So, the variables are not coinddegrees and the serie of datas are not probably random. There is a relation of long terms between the exogeneous variable and the endogenous variables.

The evaluations of the model equations will permit to emphasize the different relations between these variables to realise a pertinent analysis of this study.

**5.2 Presentation of the results**

A fixed effects model or a random effects model, the choice of which has been determined by the Hausman test. Indeed, the Hausman test shows that the P-value of the test is below the threshold of 5%, so it is retained the fixed effects model in the following analysis. The fixed effects results are shown in Table 4.

The Wooldrige autocorrelation test of variables as well as the Breush-Pagan and Wald heteroskedasticity errors were performed on the model.

The finding is that tests on the autocorrelation fixed effects model (Wooldrige test) have a first-order autocorrelation problem between errors in that all calculated P-values are below the significance threshold of 5% (P-value <5%). Also, is there an error heteroscedasticity problem, the Wald test as well as the Breush-Pagan test have calculated P-values that are below the significance level of 5% (P-value <5%). Thus, since it is a panel, it is possible to refer to the generalized moments method (MMG) or dynamic panel (GMM) to correct these problems of autocorrelation and heteroscedasticity of the errors.

**Table 4: Evaluation of Log of GDP with the Ne by the Fixed Effects Method**

Log PIB	Coeff. (σ) (I)	Coeff. (σ) (II)	Coeff. (σ) (III)	Coeff. (σ) (IV)	Coeff. (σ) (V)	Coeff. (σ) (VI)	Coeff. (σ) (VII)	Coeff. (σ) (VIII)	Coeff. (σ) (IX)	Coeff. (σ) (X)	Coeff. (σ) (XI)	Coeff. (σ) (XII)	Coeff. (σ) (XIII)	Coeff. (σ) (XIV)
Log FBC	0.260 (7.23) ***	0.262 (7.23) **	0.263 (7.36) ***	0.243 (6.81) **	0.258 (7.43) **	0.294 (8.23) **	0.257 (6.94) ***	0.246 (6.23) **	0.280 (7.67) ***	0.278 (7.32) **	0.250 (7.17)	0.2843 (7.97)	0.271 (7.55)	0.2656 (7.27)
Log work	1.789 (13.99) ***	1.819 (13.01) ***	1.802 (14.17) ***	1.876 (13.62) ***	1.842 (14.81) ***	1.846 (13.74) ***	1.802 (13.67) ***	1.902 (11.92) ***	1.700 (12.89) ***	1.706 (10.79) ***	1.814 (14.68)	1.833 (12.90)	1.719 (13.15)	1.781 11.91
Log.Educ Level		-0.042 (-0.54)		0.109 (1.23)		-0.1307 (-1.72)		0.022 (0.17) **		0.016 (0.18)		-38.68 (-3.42)		0.028 (0.32)
Citiz.Voice			-0.0725 (-1.70)	-0.273 (-3.29)										
Educ Level*Citiz. Voice				0.007 (2.86)										
Pol. Stab.					0.081 (3.23)	0.3420 (3.70)								
Educ. Level*Pol. Stab.						-0.007 (-2.68)								
Eff.of Public Powers							0.022 (0.44)	-0.091 (-0.57)						
.Educ. Level*Eff. of Power Public								0.003 (0.86)						
Qual.Reg									-0.171 (-2.25)	-0.203 (-1.29)				
Educ. Level*Qual. Reg										0.0008 (0.22)				
Stateoflaw											0.171 (3.23)	0.550 (3.98)		
Educ. Level*State of law												-0.0101 (-2.55)		
Corrupt. Control													-0.110 (-2.07)	-0.243 (-1.93)
Educ. Level* Corrupt Control														0.003 (1.18)
Constante	-10.058 (-7.48)* **	-10.399 (-7.00)* **	-10.348 (-7.69)* **	-11.392 (-7.70)* **	-10.775 (-8.19)* **	-11.103 (-7.78)* **	-10.168 (-7.41)* **	-11.504 (-6.37)* **	-9.212 (-6.70)* **	-9.3193 (-5.35)* **	-10.096 (-7.79)	-9.707 (-6.11)	-9.288 (-6.74)	-10.204 (-6.15)

Number of Obs	136	136	136	136	136	136	136	136	136	136	136	136	136	136
F1* Statistics	792.76	525.66	537.34	339.92	571.67	365.42	225.17	313.60	547.29	323.28	571.54	371.94	543.75	325.15
Prob> F1	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
F2* Statistics	85.00	59.04	74.55	55.33	73.42	50.82	81.25	43.67	58.66	43.77	69.55	55.69	70.50	51.60
Prob> F2	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
R <sup>2</sup> Within*	0.9264	0.9266	0.9280	0.9325	0.9321	0.9369	0.9265	0.9273	0.9293	0.9293	0.9321	0.9380	0.9288	0.9297
R <sup>2</sup> Between*	0.8945	0.8911	0.8943	0.8916	0.8857	0.8862	0.8945	0.8899	0.9000	0.9003	0.8858	0.8754	0.8979	0.8945
R <sup>2</sup> Général	0.8720	0.8676	0.8719	0.8678	0.8632	0.8616	0.8714	0.8639	0.8814	0.8814	0.8629	0.8516	0.8783	0.8730
Test of Wald	69.07	96.02	61.74	34.96	37.88	193.57	65.03	81.80	75.15	71.16	42.02	52.34	62.15	102.08
Prob> Chi2	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Test of Breusch-Pagan Chi2	140.986	139.228	136.366	133.266	126.061	114.299	140.806	139.514	148.765	150.380	133.638	106.443	145.019	146.659
Prob> Chi2	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Test of Wooldridge F	52.195	57.099	50.213	58.013	40.899	41.134	53.508	58.160	78.161	83.076	42.595	42.960	51.090	54.781
Prob> Fisher	0.0002	0.0001	0.0002	0.0001	0.0004	0.0004	0.0002	0.0001	0.0000	0.0000	0.0003	0.0003	0.0002	0.0001
Absolute value of t statistics in parentheses														
* significatif à 10%; ** significatif à 5%; *** significatif à 1%														
F1: Statistics of Fisher, tests the joint significance of the explanatory variables														
F2: Statistics of Fisher tests the joint significance of the fixedeffects to the model														
R <sup>2</sup> Within: it is the most relevant for fixedeffectsmodelsbecauseitgives an idea of the intra-individualvariability of the dependent variable explained by those of the explanatory variables														
R <sup>2</sup> Between: gives an idea of the contribution of fixedeffects to the model														

The log estimate of GDP with the education level variable (Ne) by the Generalized Moments (MMG) method shows inconsistent results.

Indeed, the two tests associated with the GMM dynamic panel estimator: the Sargan / Hansen overidentification test that tests the validity of delayed variables as an instrument, and the Arellano and Bond autocorrelation test where the null hypothesis is the lack of second-order autocorrelation errors of the equation are not verified.

In the generalized moments method (GMM in dynamic panel), the autocorrelation test of Arellano and Bond where the null hypothesis is: absence of second-order autocorrelation of the errors of the equation in differences; shows that there is no second-order autocorrelation of errors (probZ2> 0.05). However, the Sargan / Hansen overidentification test that tests the validity of delayed variables as instruments is not verified (prob (Wald chi2) <0.05).

The use of the method of generalized moments (MMG, Arrelano-Bond) does not therefore make it possible to explain the model insofar as the two tests associated with the dynamic panel MMG estimator: the Sarganoveridentification test / Hansen which allows to test the validity of delayed variables as instruments and the autocorrelation test of Arellano and Bond where the null hypothesis is the absence of second-order autocorrelation of the errors of the equation in differences are not checked simultaneously.

Thus, the model is estimated by the Generalized Least Squares (GCM) method which gives more robust results with efficient and unbiased estimators. The analysis will be done only on the coefficients of the estimators obtained by the method of Least Squares Generalized (MCG)

The different results of evaluation through the method of the general lower squares (MGC) are presented like that.

A distinction in the specification is done considering each indicator of the main governance. In every case, the equation is evaluated with the explanatory variables which are taken one by one, followed by a model which considers the interaction between the governance variable and the one of the human capital indicator which is represented by the education level.

**Table 5: Evaluation of Log of GDP with the Ne by the lower general squares method (MCG)**

Log PIB	Coeff. (σ) (I)	Coeff. (σ) (II)	Coeff. (σ) (III)	Coeff. (σ) (IV)	Coeff. (σ) (V)	Coeff. (σ) (VI)	Coeff. (σ) (VII)	Coeff. (σ) (VIII)	Coeff. (σ) (IX)	Coeff. (σ) (X)	Coeff. (σ) (XI)	Coeff. (σ) (XII)	Coeff. (σ) (XIII)	Coeff. (σ) (XIV)
Log FBC	0.614 (47.26)* **	0.474 (38.48)* **	0.697 (53.87)* **	0.485 (32.53)* **	0.625 (40.46)* **	0.549 (27.96)* **	0.650 (54.61)* **	0.402 (31.26)* **	0.645 (43.09)* **	0.523 (40.33)* **	0.677 (53.48)	0.568 (32.96)	0.625 (43.39)	0.487 (38.32)
Log work	0.358 (16.18)* **	0.630 (27.47)* **	0.267 (11.16)* **	0.628 (23.38)* **	0.344 (12.15)* **	0.502 (13.27)* **	0.337 (15.74)* **	0.780 (31.82)* **	0.483 (16.92)* **	0.666 (24.21)* **	0.358 (16.47)	0.558 (18.20)	0.417 (14.32)	0.670 (22.70)
Log.Educ Level		0.426 (29.04)* **		0.663 (19.90)		0.200 (8.41)** *		1.079 (11.76)* **		0.467 (11.45)* **		0.104 (1.90)		0.523 (18.17)
Citiz.Voice			-0.193 (-23.23)	-0.475 (-8.72)										
Educ Level*Citiz.Voice				0.011 (8.36)										
Pol. Stab.					-0.169 (-18.45)	0.434 (7.11)								
Educ. Level*Pol. Stab.							-0.014 (-8.76)							
Eff.of Public Powers							-0.148 (-13.29)	-0.932 (-7.89)						
Educ. Level*Eff. of Power Public								0.021 (8.02)						
Educ. Level*Eff. of Power Public								0.021 (8.02)						
Qual.Reg									-0.597 (-32.28)	-0.766 (-8.22)				
Educ. Level*Qual. Reg										0.008 (3.97)				

  

Log PIB	Coeff. (σ) (I)	Coeff. (σ) (II)	Coeff. (σ) (III)	Coeff. (σ) (IV)	Coeff. (σ) (V)	Coeff. (σ) (VI)	Coeff. (σ) (VII)	Coeff. (σ) (VIII)	Coeff. (σ) (IX)	Coeff. (σ) (X)	Coeff. (σ) (XI)	Coeff. (σ) (XII)	Coeff. (σ) (XIII)	Coeff. (σ) (XIV)
Stateoflaw											-0.334 (-18.07)	0.122 (1.29)		
Educ. Level*State of law												-0.010 (-4.46)		
Corrupt Control													-0.354 (-18.12)	-0.511 (-9.35)
Educ. Level* Corrupt Control														0.006 (5.62)
Constant	4.226 (31.52)* **	1.475 (7.12)** *	3.812 (20.35)* **	0.434 (1.73)	4.127 (20.31)	2.605 (8.41)** *	3.683 (23.41)* **	-1.697 (-3.84)** *	1.399 (6.70)** *	-0.432 (-1.22)	2.704 (18.91)	1.577 (5.33)	2.878 (12.07)	0.110 (5.62)
Number of Obs	136	136	136	136	136	136	136	136	136	136	136	136	136	136
Number of countries	8	8	8	8	8	8	8	8	8	8	8	8	8	8
Wald Chi2	26436.8 6	13244.1 2	19432.4 5	16281.9 2	13419.9 4	10730.8 8	33884.4 1	12331.3 5	16755.0 1	12308.5 7	29086.86	16315. 73	13441. 59	9806.11
Prob>Chi2	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Absolute value of z statistics in parentheses														
* significatif à 10%; ** significatif à 5%; *** significatif à 1%														

In first time, the coefficients of the variables isolated are significant. It means that all these variables have impact on the evolution of GDP. In fact, the positive coefficient of the education level involves an education level which is driving an economic growth in the determined countries of that analysis. That confirm the conclusion of Maniw concerning the role of the education level into the economic growth of a country.

And then, as the coefficients of all the elements of the governance are negative, it means that the citizen voice, the political stability, the efficiency of public powers, the quality of regulation, the state of law and the control of corruption isolated are a negative contribution of the evolution of GDP. It is due to the weak level of governance indicators in the WAEMU countries. We can justify this weakless of the indicators with the social and political crisis (political crisis from 2002 to 2011 in Côte d'Ivoire) that some states of the Union and a main corruption level live (Côte d'Ivoire and Bissau Guinea).

Concerning the interaction between the education level and the elements of governance, we notice that the education level impact positively the economic growth. Even if it is not the same situation in some countries which have a good education level with a weak growth along the period 1996-2012 (Togo where the education level is in 53,72% combined with the medium growth rate of 0,04% along this same period)..

The interaction of the coefficients of all the governance indicators with the education level are significant. Almost all the governance indicators like citizen voice, political stability, efficiency of public powers, quality of regulation and the control of corruption have positive impact on Gross Development Product (GDP). Nonetheless, it is important to say that education reduce the negative impact of the elements of governance on the growth. That involve the implication of these governance indicators in the evolution of gross development product.

But, the coefficients of the rule of law and political stability are negative and significant at the 5% level. It is these two indicators combined with the level of education that have a negative but not significant impact on growth.

The authorities of West African Economic and Monetary Union (WAEMU) must emphasise on citizen voice, political stability, efficiency of public powers, and quality of regulations and control of corruption encouraging education for all (EPT) to get a harmonious growth in the following countries.

Going deep in this analysis and considering each equation of the general lower squares method (MCG) of the table 5, the next results are observed:

The equation in column (IV) in Table 5 highlights the significance of all the coefficients of the variables, it shows that the level of education has a positive impact on GDP and the introduction of the level of education as a catalyst Citizen voice contributes to the increase (0.011) of GDP.

The equation in column (VI) of Table 5 highlights the significance of all the coefficients of the variables, it shows that the level of education has a positive impact on GDP and the introduction of the level of education as a catalyst political stability contributes to the decline (-0.014) of GDP but attenuates the effect of political stability whose coefficient was (-0.169).

As for the equation in column (VIII) of Table 5, it shows that all the coefficients of the variables are significant and the level of education has a positive influence on the GDP and the efficiency of public authorities accompanied by a good level of education, contributes to economic growth (0.021).

The equation in column (XX) of Table 5 confirms the positive effect of education level on GDP change. The interaction of the quality of regulation and a high rate of education has a positive impact (0.008) on growth.

The equation in column (XII) of Table 5 gives coefficients of the negative rule of law variables. This estimate shows that the introduction of the level of education as a catalyst for the rule of law has a negative impact (-0.010) on the evolution of GDP but attenuates the effect of the rule of law whose coefficient is (-0.334).

The equation in column (XIV) of Table 5 confirms the positive effect of education level on GDP change. The interaction of the control of corruption and a high rate of education has a positive impact (0.006) on growth.

And then, some variables about the governance indicators and the education level, the different specifications consider the logarithm of work force, rude creation of fix capital and constant. All things are equals, especially the work force and the capital are both significative on the GDP level. The variables coefficients of the work factor and the capital factor represent the flexibility of GDP with the capital factor. According to the equation of column (I) of the table 5, when the capital factor increases with 10% for example, the GDP increases with 6,14% ( $\alpha_1=0.614$ ). When the work factor also increases with 10%, the GDP increases with 3, 58% ( $\alpha_2=0.358$ ). We note that the sum of the variables coefficients of work and the capital is low than 1 (column I of table 6), there are decreasing scale efficiency ( $\alpha_1 + \alpha_2= 0,972 <1$ ). So, the GDP increases slower than the production factor. We note that the constant is significative, it verifies the conclusions of Solow model which consider this constant as a technical progress. In addition of the other variables, the incorporation of technical progress contributes to perform the level of GDP of WAEMU countries. The analysis of tables 2 and 3

which are about the statistics of governance, GDP and literacy level by country, show us that the majority of countries like Senegal, Benin and Mali which have the medium growth rate of positive GDP most high on period 1996-2012 are those which have a good governance level among the WAEMU countries. It confirms the rudeness of the results got by the MCG.

In conclusion, this value about the education level in the relationship between governance indicators and the growth in the WAEMU countries permits to evidence:

- In the first time the highly positive and significative impact on the evolution of GDP.
- Secondly the negative effect of governance components, isolated, of the evolution of GDP;
- A third important result is the one of the interaction of governance variables with the education level which permit to observe the devolution effects it means the essential positive impact of indicators of the governance growth;
- Finally, with these first results, we can also add the leading effects of the education level in the relation between the citizen voice, the political stability, the efficiency of public powers, the quality of regulation and the control of corruption and the evolution of GDP in a long term or between good governance and economic growth.

## **VI. Conclusion**

Today the education role in the growth is promoted by the international institutions and reinforced by the economic theory. And yet, the massive increase of schooling into the developing countries (PED) sometimes got a limited or zero influence on the growth rate. For Gregory MANKIW who worked on the way the education can drive the economic growth, the impact of the population's education level on the economic growth of a country is considered strong; even if the education level can only increase slowly, as the generations substitute the previous ones.

This study is about the role of the governance in the economic growth into the WAEMU country from the datas of panel on the period 1996 – 2012. Our study shows the indicators of governance are vectors of growth in the WAEMU countries. A good control of the corruption and a good political stability encourage the entrepreneurship and supply the investment. However, this effect of the low level of indicators of governance on the growth in these countries is less emphasised on the growth in the countries where the education level is out of the median.

The literacy, the schooling and the junction of several indicators of education level, is presented as a necessary condition to get best governance indicators and permit a best contribution of these ones for the growth and the development of WAEMU countries. The governance elements can also perform the economic capacities of the Union Countries if they permit to stimulate or increase the investments. Some efforts in term of performance of education level of the decision-makers and populations are so indispensables to the best orientation of governance indicators to the likely activities to support the growth into WAEMU countries.

Everybody agree with the way the governance is complexes, and conscient of the fact that the interventions in the domain can be very difficult, but the good governance is also indispensable for a sustained development.

However, Daniel Kaufman showed the developing countries are not the only ones to be affected by the governance problems. According to him, the last world indicators show a certain number of convergent economics display some results of the governance plan and corruption control which are better than rich industrial countries. In the other side, Kaufmann and Aart Kraay, say that it can exist growth without a good governance in some countries such as latin America. So, should we admit that some countries of Asia (Japan and China) are not examples in term of governance but they have beautiful growth?

Somewhere else, the results of this empirical analysis of the governance notions, growth and education level show us there is a strict link between these topics.

Indeed, there is the governance which doesnot contribute to the economic gorwth when it is evaluated from this indicators. In addition, the governance indicators with a high education level cause more economic growth in developing countries.

Some efforts should be done for a performance of education level and best governance in these countries, especially concerning the political stability, quality of regulation and efficiency of public powers to permit to WAEMU countries to benefit more the good governance.

As the good governance with a high education level cause the economic growth into the WAEMU countries, it is more than essential for all the countries which have their economics similar to those of these developing countries to insist on the governance level in all these elements and the education level of populations countries to perform the indication of HumanDevelopment of the country (IDH : The Indication of Human Development is the statistical indication of Human Development, created by the (PNUD) in 1990, which is evaluating the human development level of world countries) to aspire to any economic and social

development. So, the members of the New Partnership for Africa Development (NEPAD) have the economic development, the promotion of human capital and governance.

So, we do the next recommendations:

- perform the education level (Development of Education for all), to make the education accessible for everyone ;
- encourage the literacy of adult through creation of special centers and trainers;
- the States should ensure the political stability through just and transparent elections;
- get strong institutions and justice performant systems.

Finally, we should need a real political volunteering to make the issue institutional, political, social and economic more viable, bearable and confident for growth and investments, the social wellbeing of populations and a sustained development.

Our econometric study present some limits. However, a best analysis should refer to a model which consider the specific or fix effects in a long time periods. And yet, the duration (17 years) of our series is short, and is itself attributable to the almost lack of long series of data. We should also note that the used variable of governance varies a bit from one year to another one for the countries which are in the extremes into the classification (the most performant and faulty in term of governance).

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